AV-27D302
AV-27D202

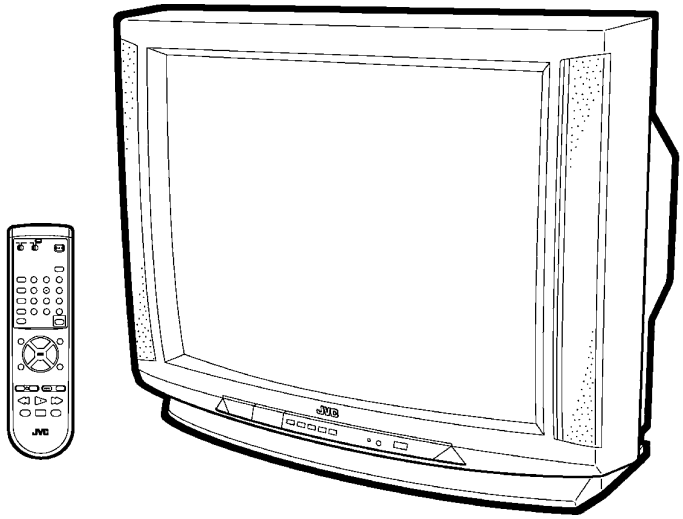
JVC

SERVICE MANUAL

COLOR TELEVISION

BASIC CHASSIS
FD

AV-27D302/S
AV-27D302/R
AV-27D202/S
AV-27D202/R



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No.51788
Mar. 2001

MEMORY IC REPLACEMENT

1. Memory IC

This model uses a memory IC.
This memory IC stores data for proper operation of the video and deflection circuits.
When replacing, be sure to use an IC containing this (initial value) data.

2. Memory IC replacement procedure

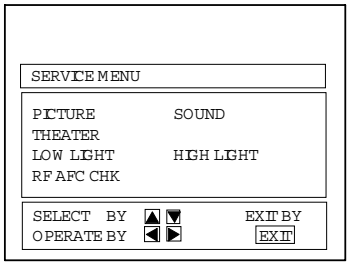
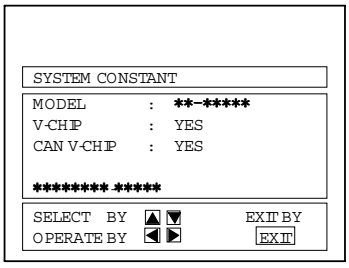
Procedure	Screen display
(1) Power off Switch off the power and disconnect the power cord from the outlet.	
(2) Replace the memory IC Initial value must be entered into the new IC.	
(3) Power on Connect the power cord to the outlet and switch on the power.	
(4) System constant check and setting 1) Press **SLEEP TIMER** key and, while the indication of "**SLEEP TIMER 0 MIN.**" is being displayed, press **DISPLAY** key and **VIDEO STATUS** key on the remote control unit simultaneously. 2) The SERVICE MENU screen of Fig.1 is displayed. 3) While the SERVICE MENU is displayed, again simultaneously press the **DISPLAY** and **VIDEO STATUS** keys to display the Fig.2 SYSTEM CONSTANT screen. 4) Refer to the SYSTEM CONSTANT table and check the setting items. Where these differ, select the setting item with the **UP/DOWN** (▲/▼) key and adjust the setting with the **LEFT/RIGHT** (◀/▶) keys. 5) After adjusting, release the **LEFT/RIGHT**(◀/▶) key to store the setting value. 6) Press the **EXIT** key twice to return the normal screen.	 Fig.1
(5) Receive channel setting Refer to the OPERATING INSTRUCTIONS (USER'S GUIDE) and set the receive channels (Channels Preset) as described.	 Fig.2
(6) User settings Check the user setting items according to Table 2. Where these do not agree, refer to the OPERATING INSTRUCTIONS (USER'S GUIDE) and set the items as described.	
(7) SERVICE MENU setting Verify what to set in the SERVICE MENU, and set whatever is necessary.(Fig.1) Refer to the SERVICE ADJUSTMENT for setting.	

TABLE 1 (System Constant setting)

Setting item	Setting content	Setting value	
		AV-27D302/R, /S	**AV-27D202**/R, /S
MODEL	AV-27D302 → AV-27D202 → AV-20D202 → AV-27230 → AV-27D302	AV-27D302	AV-27D202
V-CHIP	YES ⇄ NO	YES	YES
CAN V-CHIP	YES ⇄ NO	YES	YES

TABLE 2 (User setting value)

Setting item	Setting value
1. Use remote controller keys	
POWER	ON
CHANNEL	CH 02
CHANNEL PRESET	See OPERATING INSTRUCTIONS.
VOLUME	10
TV/VIDEO(INPUT)	TV
DISPLAY	OFF
SLEEP TIMER	OFF
VIDEO STATUS	STANDARD
HYPER SURROUND	OFF
2. Setting of MENU	
TINT	CENTER
COLOR	CENTER
PICTURE	CENTER
BRIGHT	CENTER
DETAIL	CENTER
NOISE MUTING	ON
SET VIDEO STATUS	ALL CENTER
BASS	CENTER
TREBLE	CENTER
BALANCE	CENTER
MTS	STEREO
TV SPEAKER	ON
SET CLOCK	Unnecessary to set
ON/OFF TIMER	NO
LANGUAGE	ENGLISH
CLOSED CAPTION	OFF
BACKGROUND	BLACK
V2 COMPONENT IN	NO
AUTO TUNER SETUP	TUNER MODE : AIR
CHANNEL SUMMARY	Unnecessary to set
V-CHIP	OFF
V-CHIP RATINGS	ALL OFF
SET LOCK CODE	Unnecessary to set
UNRATED	VIEW

BASIC OPERATION OF SERVICE MENU

1. TOOL OF SERVICE MENU OPERATION

Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

2. SERVICE MENU ITEMS

In general, basic setting (adjustments) items or verifications are performed in the SERVICE MENU.

- PICTURE ····· This sets the setting values (adjustment values) of the VIDEO/CHROMA and DEFLECTION circuits.
- SOUND ····· This sets the setting values (adjustment values) of the AUDIO circuit.
- THEATER ····· This is used when the THEATER MODE is adjusted.
- LOW LIGHT····· This sets the setting values (adjustment values) of the WHITE BALANCE circuit.
- HIGH LIGHT ····· This sets the setting values (adjustment values) of the WHITE BALANCE circuit.
- RF AFC CHK····· This is used when the IF VCO is adjusted. **[Do not adjust]**

3. Basic Operations of the SERVICE MENU

(1) How to enter the SERVICE MENU.

Press **SLEEP TIMER** key and, while the indication of "**SLEEP TIMER 0 MIN.**" is being displayed, press **DISPLAY** key and **VIDEO STATUS** key on the remote control unit simultaneously to enter the **SERVICE MENU** screen ① shown in the next figure page.

(2) SERVICE MENU screen selection

Press the **UP / DOWN**(▲/▼) key to select any of the following items.

- PICTURE
- SOUND
- THEATER
- LOW LIGHT
- HIGH LIGHT
- RF AFC CHK

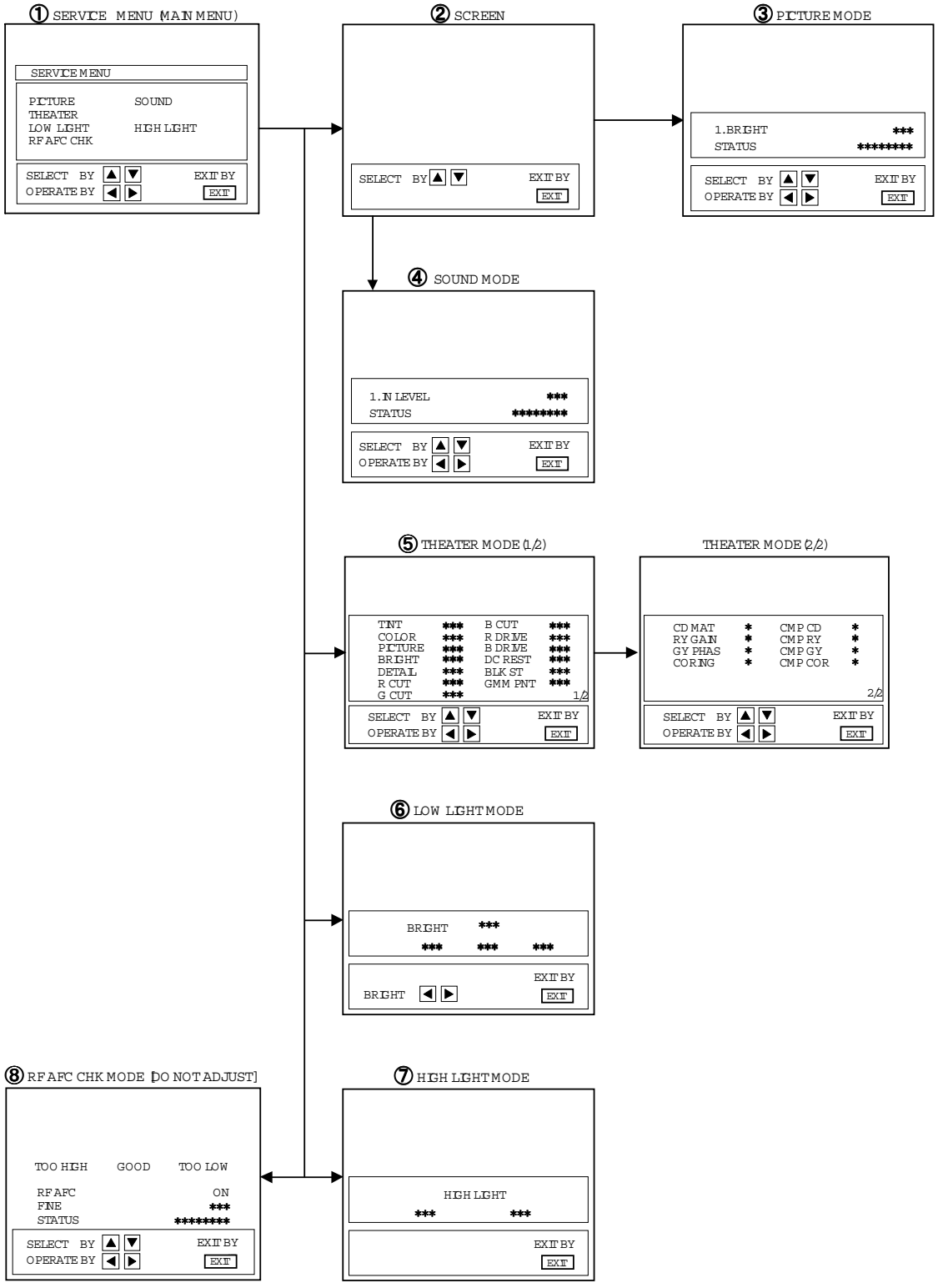
(3) Enter the any setting (adjustment) mode

- **PICTURE and SOUND mode**

1) If select any of PICTURE or SOUND items, and the **LEFT / RIGHT**(◀/▶) key is pressed from SERVICE MENU (MAIN MENU), the screen ② will be displayed as shown in figure page later.
2) Then the **UP / DOWN**(▲/▼) key is pressed, the PICTURE mode screen ③ or the SOUND mode screen ④ is displayed, and the PICTURE or SOUND setting can be performed.

- **THEATER, LOW LIGHT, HIGH LIGHT and RF AFC CHK mode**

1) If select any of THEATER / LOW LIGHT / HIGH LIGHT / RF AFC CHK items, and the **LEFT / RIGHT**(◀/▶) key is pressed from SERVICE MENU (MAIN MENU), the screens ⑤ ⑥ ⑦ ⑧ will be displayed as shown in figure page later.
2) Then the settings or verifications can be performed.

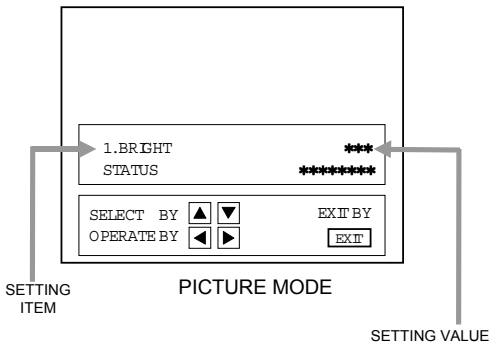

① SERVICE MENU (MAIN MENU)
SERVICE MENU
PICTURE
THEATER
LOW LIGHT
RF AFC CHK
SOUND
HIGH LIGHT
SELECT BY
OPERATE BY
EXIT BY
EXIT
② SCREEN
SELECT BY
EXIT BY
EXIT
③ PICTURE MODE
1. BRIGHT ***
STATUS ********
SELECT BY
OPERATE BY
EXIT BY
EXIT
④ SOUND MODE
1. IN LEVEL ***
STATUS ********
SELECT BY
OPERATE BY
EXIT BY
EXIT
⑤ THEATER MODE (1/2)
TINT *** B CUT ***
COLOR *** R DRIVE ***
PICTURE *** B DRIVE ***
BRIGHT *** DC REST ***
DETAIL *** BLK ST ***
R CUT *** GMM PNT ***
G CUT *** 1/2
SELECT BY
OPERATE BY
EXIT BY
EXIT
THEATER MODE (2/2)
CD MAT * CMP CD *
RY GAIN * CMP RY *
GY PHAS * CMP GY *
CORING * CMP COR *
2/2
SELECT BY
OPERATE BY
EXIT BY
EXIT
⑥ LOW LIGHT MODE
BRIGHT ***
*** *** ***
EXIT BY
BRIGHT
EXIT
⑦ HIGH LIGHT MODE
HIGH LIGHT
*** ***
EXIT BY
EXIT
⑧ RF AFC CHK MODE [DO NOT ADJUST]
TOO HIGH GOOD TOO LOW
RF AFC ON
FINE ***
STATUS ********
SELECT BY
OPERATE BY
EXIT BY
EXIT

(4) Setting method

1) **UP / DOWN** (▲/▼)key.
Select the SETTING ITEM.

2) **LEFT / RIGHT**(◀/▶) key.
Setting (adjust) the SETTING VALUE of the SETTING ITEM.
When the key is released the SETTING VALUE will be stored (memorized).

3) EXIT key
Return to the previous screen.

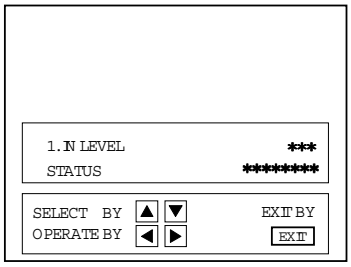


PICTURE MODE

(5) Releasing SERVICE MENU

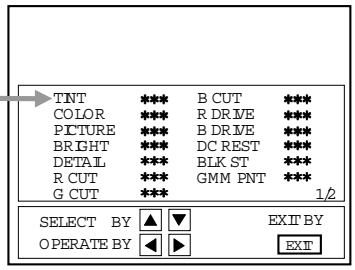
1) After returning to the SERVICE MENU upon completion of the setting (adjustment) work, press the EXIT key again.

★ The settings for LOW LIGHT and HIGH LIGHT are described in the WHITE BALANCE page of ADJUSTMENT.

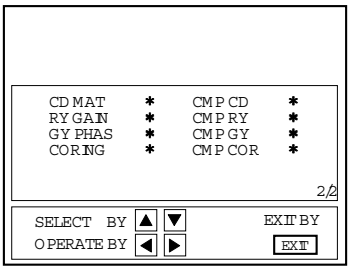


SOUND MODE

The letter of the selected Items are displayed in yellow.



THEATER MODE(1/2)



THEATER MODE(2/2)

INITIAL SETTING VALUE OF SERVICE MENU

1. Adjustment of the SERVICE MENU is made on the basis of the initial setting values; however, the new setting values which set the screen in its optimum condition may differ from the initial setting.
2. Do not change the initial setting values of the setting (adjustment) items not listed in "ADJUSTMENT".

PICTURE MODE

- The 5 setting items in the video mode No.6 EXT BRI, No.7 EXT PICT, No.8 EXT CLR, No.9 EXT TINT and No.10 EXT DTL are linked to the items in the TV MODE No.1 BRIGHT, No.2 PICTURE, No.3 COLOR, No.4 TINT and No.5 TV DTL respectively. When the setting items in the TV mode are adjusted, the values in the setting items in the video mode are revised automatically to the same values in the TV mode. (The initial setting values given in parenthesis are offset values.)
- When the 5 items (No.6, 7, 8, 9 and 10) are adjusted in the video mode, the setting values in each item are changed independently.

No.	Setting (Adjustment) items	Variable range	Initial setting value	
			AV-27D302 /S AV-27D202 /S	AV-27D302 /R AV-27D202 /R
1.	BRIGHT	000～127	064	064
2.	PICTURE	000～127	100	100
3.	COLOR	000～127	055	055
4.	TINT	000～127	087	087
5.	TV DTL	000～63	050	050
6.	EXT BRI.	±025	±000	±000
7.	EXT PICT.	±025	+002	+002
8.	EXT CLR	±025	±000	±000
9.	EXT TINT	±025	-005	-005
10.	EXT DTL	000～063	050	050
11.	CMP BRI	±025	-001	-001
12.	CMP PICT	±025	±000	±000
13.	CMP CLR	000～127	072	072
14.	CMP TINT	000～127	037	037
15.	CMP DTL	000～063	050	050
16.	CMP R CT	±025	+008	+008
17.	CMP G CT	±025	±000	±000
18.	CMP B CT	±025	+008	+008
19.	CMP R DR	±025	±000	±000
20.	CMP B DR	±025	-002	-002
21.	WPL	000 / 001	001	001
22.	C TRAP	000 / 001	000	000
23.	CORING	000 / 001	001	001
24.	CMP CORI	000 / 001	001	001
25.	TV SHAP	000 / 001	001	001
26.	EXT SHAP	000 / 001	001	001
27.	CMP SHAP	000 / 001	001	001
28.	RGB CONT	000～063	016	016
29.	TV ID S	000 / 001	000	000
30.	EXT ID S	000 / 001	000	000

No.	Setting (Adjustment) items	Variable range	Initial setting value	
			AV-27D302 /S AV-27D202 /S	AV-27D302 /R AV-27D202 /R
31.	F ID	000 / 001	000	000
32.	Y MUTE	000 / 001	000	000
33.	SUB CONT	000～015	008	008
34.	R Y GAIN	000 / 001	001	001
35.	CMP R Y	000 / 001	001	001
36.	G Y PHAS	000 / 001	001	001
37.	CMP G Y	000 / 001	001	001
38.	CD MATRI	000～003	003	003
39.	CMP CD M	000～003	001	001
40.	BLK ST	000～003	001	001
41.	DC REST	000～003	001	001
42.	CLR GMM	000 / 001	000	000
43.	UV / CBCR	000 / 001	000	000
44.	AT FLESH	000 / 001	000	000
45.	ABL GAIN	000～003	000	000
46.	ABL ST P	000～003	003	003
47.	RGB ABCL	000 / 001	001	001
48.	TV B/T	000 / 001	001	001
49.	EXT B/T	000 / 001	000	000
50.	GMM PNT	000～003	003	003
51.	BUZZ	000 / 001	000	000
52.	RF AGC	000～063	045	045
53.	AFT SENS	000 / 001	001	001
54.	R/G DRV	000 / 001	001	001
55.	BLK SW	000 / 001	000	000
56.	V S COR	000～015	011	011
57.	V LIN	000～015	012	012
58.	V SIZE	000～127	037	037
59.	V AGC	000 / 001	000	000
60.	TV AFC	000～003	001	001
61.	EXT AFC	000～003	002	002
62.	V POSI	000～007	000	000
63.	H POSI	000～031	015	015
64.	TV V FR	000～003	000	000
65.	EXT V FR	000～003	003	003
66.	STND BY	000 / 001	000	000
67.	V RMP RE	000 / 001	001	001
68.	V 48HZ	000 / 001	000	000
69.	V EHT	000～007	000	000
70.	H EHT	000～007	000	000

No.	Setting (Adjustment) items	Variable range	Initial setting value	
			AV-27D302 /S AV-27D202 /S	AV-27D302 /R AV-27D202 /R
71.	V BLK L	000～003	000	000
72.	V BLK U	000～003	001	001
73.	CCD IN	000 / 001	000	000
74.	H BLK	000 / 001	000	000
75.	OVER MD	000 / 001	001	001
76.	APACON L	000 / 001	001	001
77.	RF S/N T	000 / 001	000	000
78.	EX S/N T	000 / 001	000	000
79.	R S/N V1	000～063	000	000
80.	R S/N V2	000～063	000	000
81.	R S/N V3	000～063	000	000
82.	R S/N V4	000～063	000	000
83.	E S/N V1	000～063	000	000
84.	E S/N V2	000～063	000	000
85.	E S/N V3	000～063	000	000
86.	E S/N V4	000～063	000	000
87.	COR LEV	000～003	000	000
88.	VNR CHK	000～255	000	000
89.	VC SN TM	000～255	000	000
90.	VC SN SP	000～255	000	000
91.	CH MUTE	000 / 001	000	000
92.	OSD HP	000～031	018	018
93.	OSD VP	000～031	008	008
94.	FM TRAP	000 / 001	000	000
95.	OSC SEL	000 / 001	001	001
96.	SD SEL	000 / 001	001	001
97.	VF LK EX	000 / 001	000	000
98.	F LOCK	000～002	002	002
99.	AFC HIGH	000～064	031	031

SOUND MODE

No.	Setting (Adjustment) item	Variable range	Initial setting value	
			AV-27D302 /S AV-27D202 /S	AV-27D302 /R AV-27D202 /R
1.	IN LEVEL	000～063	024	024
2.	FH MON	000 / 001	000	000
3.	ST VCO	000～063	032	032
4.	PILOT	000 / 001	000	000
5.	FILTER	000～063	027	027
6.	LOW SEP	000～063	014	014
7.	HI SEP	000～063	021	021
8.	5FH MON	000 / 001	000	000
9.	SAP VCO	000～063	034	034
10.	BBE BASS	±010	-001	-001
11.	BBE TRE	±010	-001	-001

THEATER MODE

Setting (Adjustment) item	Variable range	Initial setting value	
		AV-27D302 /S AV-27D202 /S	AV-27D302 /R AV-27D202 /R
TINT	-20～+20	-06	-06
COLOR	-20～+20	-05	-05
PICTURE	-20～+20	-08	-08
BRIGHT	-20～+20	±00	±00
DETAIL	-20～+20	+03	+03
R CUT	-20～+20	±00	±00
G CUT	-20～+20	±00	±00
B CUT	-20～+20	±00	±00
R DRIVE	-99～+99	+06	+06
B DRIVE	-99～+99	-18	-18
DC REST	0～3	+01	+01
BLK ST	0～3	±00	±00
GMM PNT	0～3	+01	+01
CD MAT	0～3	+01	+01
RY GAIN	0～1	+01	+01
GY PHAS	0～1	±00	±00
CORING	0～1	+01	+01
CMP CD	0～3	+01	+01
CMP RY	0～1	+01	+01
CMP GY	0～1	±00	±00
CMP COR	0～1	+01	+01

LOW LIGHT MODE

Setting (Adjustment) item	Variable range	Initial setting value
R CUTOFF	0～255	85
G CUTOFF	0～255	85
B CUTOFF	0～255	85

HIGH LIGHT MODE

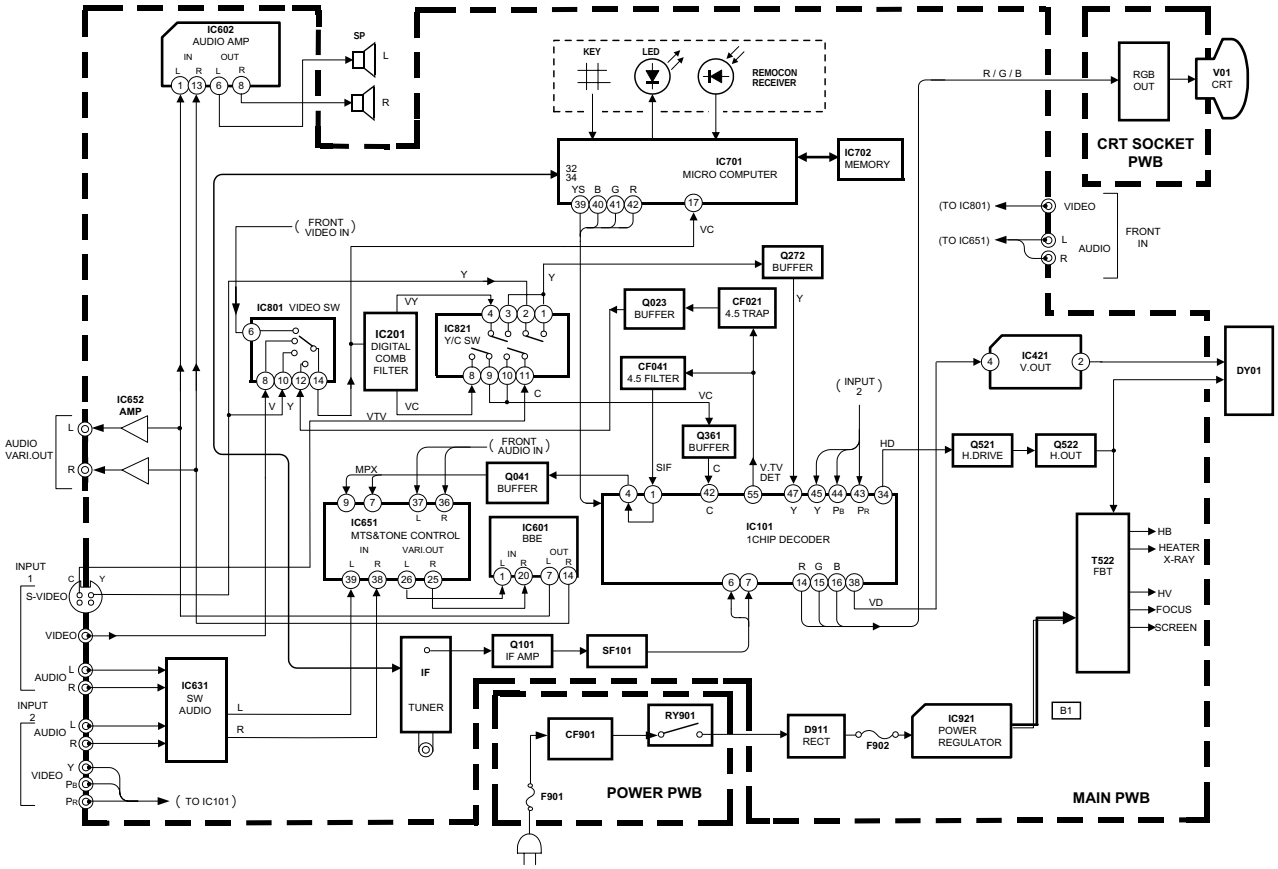
Setting (Adjustment) item	Variable range	Initial setting value
G DRIVE	0 ～ 255	60
B DRIVE	0 ～ 255	60

RF AFC CHECK MODE

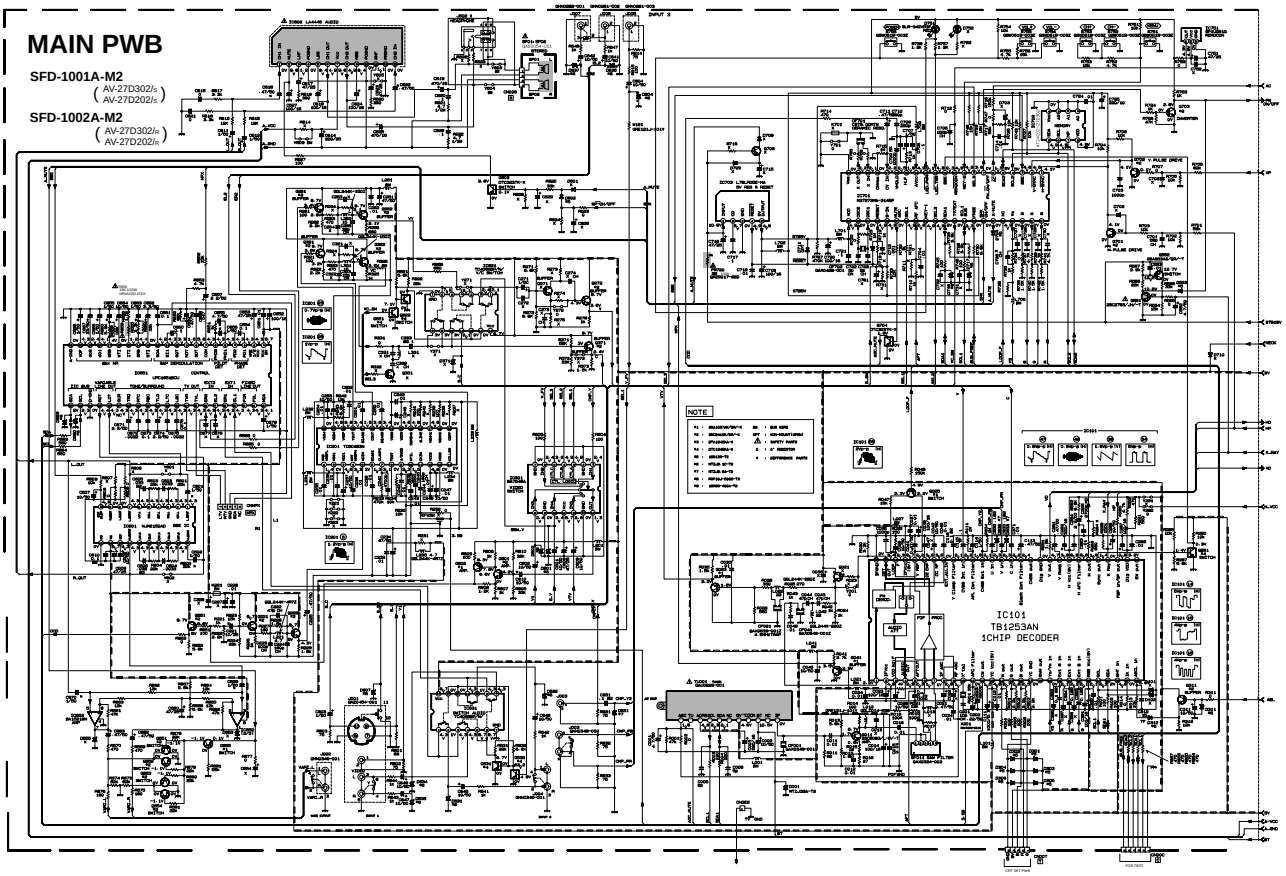
Setting (Adjustment) item	Variable range	Initial setting value
RF AFC	ON / OFF	ON
FINE	FIXED	FIXED

DO NOT ADJUST

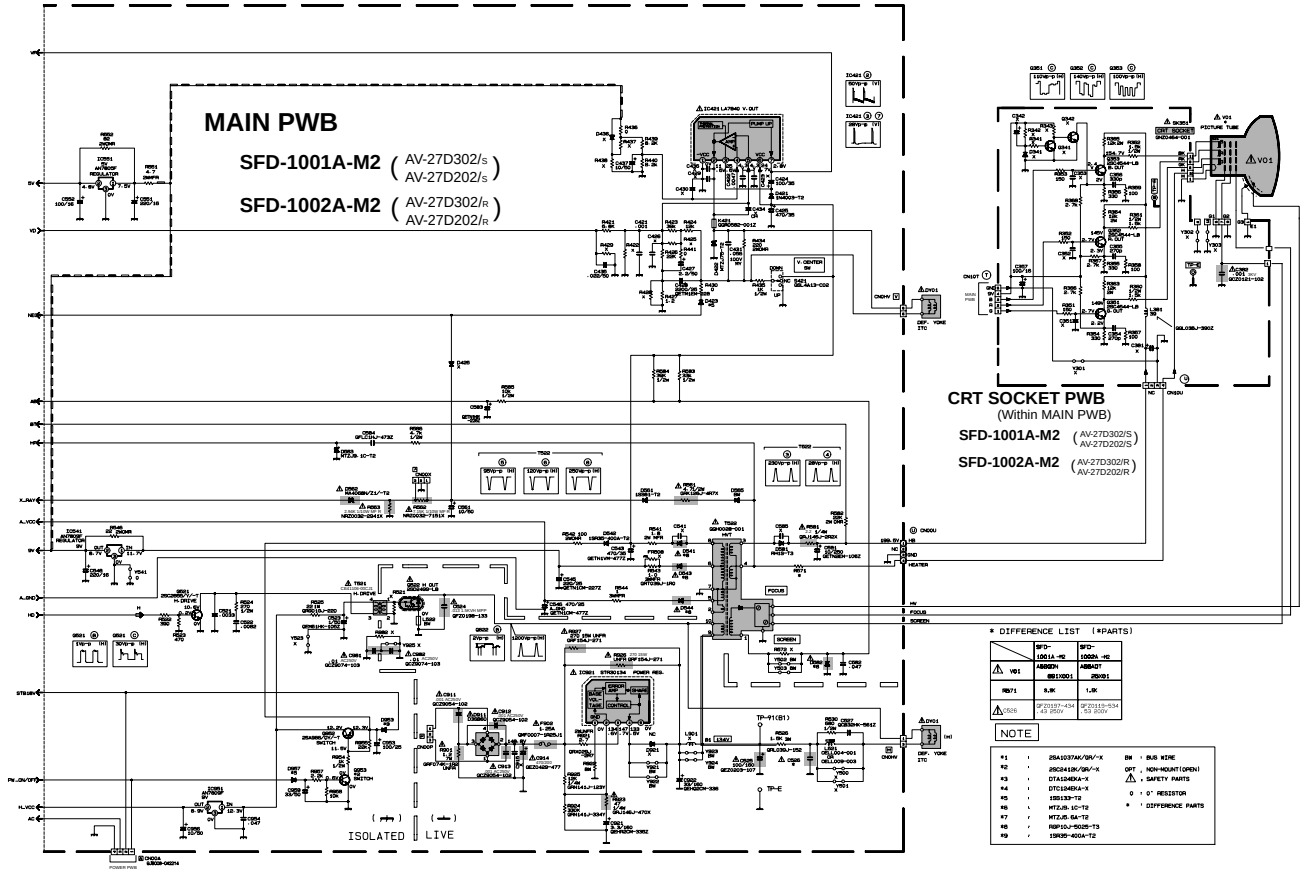
BLOCK DIAGRAM



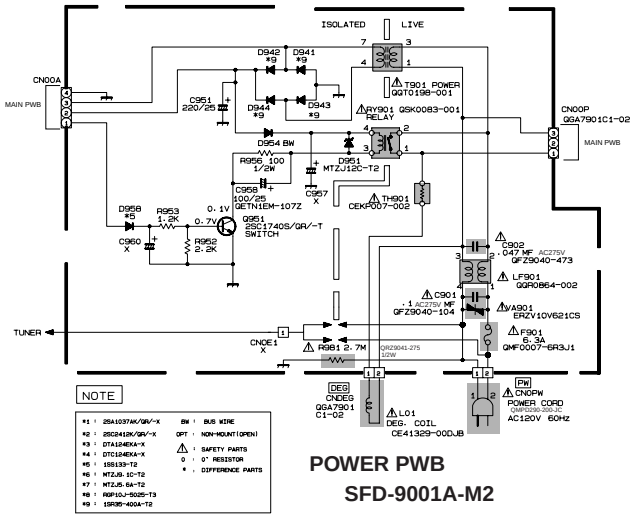
CIRCUIT DIAGRAMS ***MAIN PWB CIRCUIT DIAGRAM***



MAIN PWB, CRT SOCKET PWB CIRCUIT DIAGRAM



POWER PWB CIRCUIT DIAGRAM



POWER PWB
SFD-9001A-M2